



SECONDARY 4

SUBJECT	Components / Topics	Format	Marks	Duration with Buffer
	 NUMBER AND ALGEBRA Numbers and their operations Ratio and proportion Percentage Rate and Speed Algebraic expressions and formulae Functions and graphs Equations and inequalities Set language and notation Matrices Problems in real-world contexts GEOMETRY AND MEASUREMENT Angles, triangles and polygons Congruence and similarity Properties of circles Pythagoras' theorem and trigonometry Mensuration Coordinate geometry Vectors in two dimensions Problems in realworld contexts 	Paper 1: About 26 short answer questions.	90	2 h 30 min
		Paper 2: 9 to 10 questions of varying marks and lengths. The last question in this paper will focus specifically on applying mathematics to a real-world scenario.	90	2 h 30 min
	 ALGEBRA Quadratic functions Equations and inequalities Surds Polynomials and cubic equations Partial fractions Binomial expansions Exponential and logarithmic functions CEOMETRY AND TRIGONOMETRY Prigonometric functions and equations Trigonometric graphs Trigonometric identities and R-Formulae Qoordinate geometry in two dimensions Proofs in plane geometry Differentiation and its applications Integration and its applications Kinematics 	Paper 1: 12 – 14 questions of varying marks and lengths, up to 10 marks per question.	90	2 h 30 min
		Paper 2: 9 – 11 questions of varying marks and lengths, up to 10 marks per question.	90	2 h 30 min
	 MEASUREMENTS Physical Quantities, Units & Measurements THERMAL PHYSICS Kinetic Particle Model of Matter Thermal Processes Thermal Properties of Matter MENTONIAN PHYSICS Kinematics Dynamics I: Mass & Weight Dynamics II: Forces Turning Effects of Forces Pressure Energy MAVES General Wave Properties II: Introduction General Wave Properties II: Sound Electromagnetic Waves Light Encercicity O.C. Circuits Practical Electricity Magnetism Electromagnetic Induction Electromagnetic Induction Katic Electricity Electromagnetic Induction Electromagnetic Induction Kagnetism Electromagnetic Induction 	Paper 1 (40 marks): 40 MCQs	40	th 5 min
		 Paper 2 (80 marks): Section A (50 marks) Usually 9-12 questions of varying marks (usually 6-8 marks per question) Section B (30 marks) 3 long questions of 8-12 marks (but usually 10 marks each), with 3rd question (10 marks) given as EITHER/OR question for students to choose. (For ME, students are not given the choice) 	80	2 h
	 EXPERIMENTAL CHEMISTRY Experimental Design Methods of Purification and Analysis THE PARTICULATE NATURE OF MATTER Kinetic Particle Theory Atomic Structure CHEMICAL BONDING AND STRUCTURE Chemical Bonding Structure and Properties of Materials CHEMICAL CALCULATIONS Mole Concept and Stoichiometry Acids and Bases Salts Ammonia QUALITATIVE ANALYSIS 	Paper 1 (40 marks): 40 compulsory MCQs	40	1 h 5 min
	 Gualitative Analysis REDOX CHEMISTRY Oxidation and Reduction Electrochemistry PATTERNS IN THE PERIODIC TABLE The Periodic Table The Reactivity Series CHEMICAL ENERGETICS Chemical Energetics PATE OF REACTIONS Rate of Reactions ORGANIC CHEMISTRY Fuels and Crude Oil Hydrocarbons Alcohols, Carboxylic Acids and Esters Polymers 	 Paper 2 (80 marks): Section A (50 marks) a variable number of compulsory structured questions Section B (30 marks) 3 questions first two questions are compulsory questions, one of which will be a data-based question of 8-12 marks last question will be in an either/or form and will carry 10 marks (For ME, students are not given the choice) 	80	εh
	 CELLS AND THE CHEMISTRY OF LIFE Cell Structure and Organisation Movement of Substances Biological Molecules THE HUMAN BODY - MAINTAINING LIFE Nutrition in Humans Transport in Humans Respiration in Humans Excretion in Humans Homeostasis, Co-ordination and Response in Humans 	Paper 1 (40 marks): 40 compulsory MCQs	40	1 h 5 min
	 Infectious Diseases in Humans LIVING TOGETHER - PLANTS, ANIMALS, AND ECOSYSTEMS Nutrition and Transport in Flowering Plants Organisms and their Environment CONTINUITY OF LIFE Molecular Genetics Reproduction Inheritance 	 Paper 2 (80 marks): Section A (70 marks) a variable number of compulsory structured questions, with one free response question and one data-based question as the last two questions. The last two questions will carry a total of 20 marks Section B (10 marks) consist of two free response questions 	80	2 h